

Remarks/Arguments:

I. Status

The Office Action dated November 6, 2003, objected to claims 2, 3, 7, 8, 10-12, 15, 16, 18, 19 and 22 as being dependent upon a rejected claim, but noted that they would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claim. Claims 1, 4, 5, 9, 13 and 14 were rejected under 35 U.S.C. § 102, and claims 6, 17, 20 and 21 were rejected under 35 U.S.C. § 103.

Claims 1-22 remain pending in this application. The Applicant has carefully reviewed the Office Action dated November 6, 2003. Reconsideration of this application, in view of the following remarks, is respectfully requested.

II. The Anticipation Rejections are in Error

The Office Action rejected claims 1, 4, 5, 9, 13 and 14 under 35 U.S.C. § 102(e) as allegedly being anticipated by Johnston et al. As will be discussed below, Johnston et al. fails to disclose each and every element of any of claims 1, 4, 5, 9, 13 and 14. As a result, the anticipation rejection of those claims should be withdrawn.

The Present Invention

Claim 1 is directed to an apparatus for generating precision clock information, comprising a source of power line timing information, a source of externally-generated precision time information, and a timing circuit. The *timing circuit* is coupled to the source of externally-generated precision time information to receive a precision time

information therefrom, and is operable to generate clock information based on the precision time signal. The timing circuit is further operable to generate clock information based on the power line timing information.

Thus, the above invention has the ability to maintain highly accurate timing information because clock information used in a *timing circuit* is derived from multiple sources, namely the power line and an external precision time source.

Johnston et al.

Johnston et al. is directed to a system for transmitting intelligence over a carrier wave. (Johnston et al. at Abstract). The system of Johnston et al. may be used to transmit data over power lines. (Id. at column 5, lines 28-31.) The intelligence is imprinted onto the carrier wave by distorting the “zero-crossings” of the carrier wave. (Id. at column 5, lines 56-64.) As shown in Fig. 2B, the displacement results in a pattern of short (“S”), normal (“N”), and long (“L”) intervals as measured between zero crossings. (Id. at Fig. 2B.) Retrieval of the data from the carrier wave is accomplished by detecting the intervals between the zero-crossings. (Id. at column 6, lines 58-63.)

An appropriate receiver for extracting data is shown in Fig. 3 as reference number 32. Figs. 4A and 4B show how the receiver extracts the data. Significantly, receiver 32 comprises a 1 MHz oscillator 39. Fig. 5 is an alternative embodiment of receiver 32. (Id. at column 14, lines 42-45. In general, the circuit in the receiver shown in Fig. 5 counts the amount time between zero crossings to extract “data” from the carrier wave. (Id. at column 14, lines 50-55.) More specifically, based upon the detection of a zero crossing by zero crossing detector 68, pulses from timing pulse source are either routed by

totalizer control 70 to additive totalizer 76 or to subtractive totalizer 74. (Id. at column 15, lines 30-40.)

Subsequently, pulses from totalizer control 70 timing pulse source 72, are counted either by additive totalizer 76 or subtractive totalizer 74. The circuit then determines whether the interval between zero crossings was short, normal or long by comparing the relative counts in additive totalizer 76 and subtractive totalizer 74. (Id. at column 15, lines 41-45.)

Significantly, the output of zero crossing detector 68 is not output from totalizer control 70 and the pulses from timing pulse source 72 are not otherwise acted upon by totalizer control 70.

Accordingly, timing pulse source 72 is internal to receiver 32. Moreover, timing pulse 72 provides pulses which are *counted*. The *counts* are then added or subtracted in order to establish the type of zero-crossing interval (i.e. data). Totalizer control 70 *routes* the pulses coming from the timing pulse source to the appropriate totalizer based upon an input from the zero crossing detector. Johnston et al. does not disclose the use of timing pulse source 72 as a clock or in a timing circuit and totalizer control 70 is solely used to route signals to an appropriate counter.

Analysis of Claim 1

The November 6, 2003, Office Action stated the following with respect to the precision time signal:

With regard to claims 1 and 9, Johnston et al. teaches an apparatus for generating clock information comprising: a source of power line timing information (fig. 5, part 68), a source of externally-generated precision time information (fig. 5, part 72), and a timing circuit coupled to the source of

precision time information to receive a precision time signal, the timing circuit operable to generate clocking information based on the precision time signal, the timing circuit further operable to generate clock information based on the power line timing information (fig. 5, part 70).

(P.2)

Claim 1 requires a timing circuit “operable to generate clock information based on the precision time signal [and] operable to generate clock information based on the power line timing information”, where the precision time signal is obtained from a source of externally-generated precision time information. Contrary to the position set forth by the Office Action, Johnston et al. fails to teach or suggest an external time source or a timing circuit.

In particular, timing pulse source 72 does not in any way suggest a source of externally generated precision timing information. As stated above, the timing pulse source is *part of the receiver* and Fig. 5 shows no external input to part 72.

Furthermore, part 70 does not generate clock information. Rather, part 70 functions merely as a router, sending pulses from the pulse generator to an appropriate totalizer, where the pulses are counted. This portion of the receiver generates *data*, not *clock information*.

As a consequence, Johnston et al. fails to disclose or suggest at least the claimed timing circuit that is “operable to generate clock information based on the precision time signal [and] operable to generate clock information based on the power line timing information”, as called for in claim 1. Because Johnston et al. fails to teach or disclose every element of claim 1, it is respectfully submitted that the rejection of claim 1 is in error and should be withdrawn.

Claims 4 and 5

Claims 4 and 5 were rejected based upon Johnston et al. Claims 4 and 5 depend from and incorporate all of the limitations of claim 1. Accordingly, for at least the same reasons as those discussed above in connection with claim 1, it is respectfully submitted that the rejections or objections to claims 4 and 5 are in error and should be withdrawn.

Claim 9

Claim 9 also stands rejected as being anticipated by Johnston et al. Claim 9 is a method claim that recites steps of “generating clock information based on the precision time signal” and “generating clock information based on the power line timing information”. Johnston et al. fails to disclose the combination of these steps.

As discussed above, Johnston et al. is solely directed to altering the carrier wave form, and detecting the alteration. The detected zero crossings and the timing pulse inputs are *not interchangeable*, and loss of one input renders the system unusable. The Johnston et al. circuit does and cannot provide redundancy in the event of a power line signal interruption nor can it adjust its internal clock using external information. Thus, the circuit cannot perform both steps of “generating clock information based on the precision time signal” and “generating clock information based on the power line timing information”.

Because Johnston et al. fails to teach or disclose every element of claim 9, it is respectfully submitted that the rejection of claim 9 is in error and should be withdrawn.

Claims 13 and 14

Claims 13 and 14 stand rejected as being anticipated by Johnston et al. Claims 13 and 14 depend from and incorporate all of the limitations of claim 9. Accordingly, for at least the same reasons as those discussed above in connection with claim 9, it is respectfully submitted that the rejections of claims 13 and 14 are in error and should be withdrawn.

III. The Obviousness Rejections Should be Withdrawn

Claims 6, 17, 20 and 21 have been rejected as obvious over Johnston et al. in view of Griffin et al. Claims 6, 17, 20 and 21 are all allowable at least for the reasons set forth above with respect to claim 1.

Claim 6

Claim 6 depends from claim 4 which in turn depends from claim 1. As discussed above, Johnston et al. fails to teach all of the limitations of claim 1. The proposed modification of Johnston et al. suggested by the Examiner in the rejection of claim 6 does not overcome the deficiencies of Johnston et al. with respect to claim 1. Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the rejection of claim 6 is in error and should be withdrawn.

Claim 17

As in claim 1, claim 17 requires a timing circuit “operable to generate clock information based on the precision time signal [and] operable to generate clock

information based on the power line timing information”, where the precision time signal is obtained from a source of externally-generated precision time information. The Office Action relies on the same portions of Johnston et al. as discussed above with respect to claim 1 to show the limitation of claim 17.

Accordingly, for at least the same reasons as those set forth above in connection with claim 1, it is respectfully submitted that the rejection of claim 17 is in error and should be withdrawn.

Claims 20 and 21

Claims 20 and 21 depend directly or through an intermediate claim from claim 17. As discussed above, Johnston et al. fails to teach all of the limitations of claim 17. The proposed modification of Johnston et al. suggested by the Examiner in the rejection of claims 20 and 21 does not overcome the deficiencies of Johnston et al. with respect to claim 17. Accordingly, for at least the same reasons as those set forth above in connection with claim 17, it is respectfully submitted that the rejection of claims 20 and 21 is in error and should be withdrawn.

IV. Allowable Subject Matter

Claims 2, 3, 7, 8, 10-12, 15, 16, 18, 19 and 22

The Examiner determined that claims 2, 3, 7, 8, 10-12, 15, 16, 18, 19 and 22 would be allowable if rewritten so as not to depend from a rejected claim. Claims 2, 3, 7, 8, 10-12, 15, 16, 18, 19 and 22 depend from claims that the Applicant believes to be allowable for the reasons set forth above.

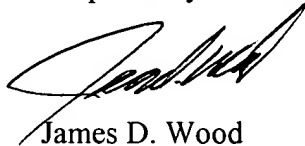
Accordingly, it is respectfully submitted that the objection to claims 2, 3, 7, 8, 10-12, 15, 16, 18, 19 and 22 is in error and should be withdrawn.

V. **Conclusion**

Applicant respectfully requests entry of the amendments and favorable consideration of the application.

A prompt and favorable action on the merits is requested.

Respectfully Submitted,



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